MEDICAL BITS FROM YOUR DOCTOR

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April 8, 2023 | Volume 5, 1st Quarter

"The whole future lies in uncertainty: live immediately".

Lucius Seneca

"Be tolerant with others and strict with yourself".

Marcus Aurelius

"The happiness of your life depends upon the quality of your thoughts".
Marcus Aurelius

Medical News

We are well aware of many of the challenges, opportunities, risks and uncertainties offered by human life.

As we have learned over the past three years, our lack of preparedness for the COVID-19 pandemic, led to exorbitant toll in human suffering, mortality, social disruptions and staggering economic, emotional and educational losses. And we "got lucky", as SARS-CoV2 has a relatively low average mortality rate of 0.1- 0.2% (higher in vulnerable individuals). There are many viruses out there with case fatality rates far higher. Think of Smallpox, which used to kill 10% of those infected. Or SARS Co-V1 with a mortality rate close to 12% or MERS (Middle East Respiratory Syndrome – also a coronavirus) with a 30% mortality. Or the recent Ebola and now Marburg Virus outbreaks in Equatorial Africa (both can lead to similar hemorrhagic fevers with a mortality rate near 50%) or a new H5N1 "Bird Flu" variant. Or a "fresh", yet undiscovered pathogen as humans continue to encroach on animal habitats and the risk of "zoonosis" (animal borne disease) increases.

Of course, we continue to debate the origins of Covid-19, with the two opposing theories of "zoonosis" and "leak from a lab", now well researched and debated. Unfortunately, it may be impossible to reach the truth, as the evidence may be hidden behind barriers raised by autocratic regimens. If there was indeed a "zoonotic spillover", open research and inspection of historical samples and the genetic fingerprints of the initial samples would help reach the definitive answer. The FBI concluded their investigation in 2022, with moderate confidence that it was a "lab-leak". Other Federal agencies only had low confidence in such verdict.

Despite these real risks for Humanity, as commented by many observers, we have grown complacent and remain unprepared. Of course, there are countless challenges and only few "fire-hoses", but many of the hurdles have been raised by human pettiness and irresponsible autocrats waging unnecessary wars or preparing for potential ones, with the geopolitical

consequences in treasure and lives lost that we all witness. Regardless of the origin, we need to be better prepared for the next Pandemic.
Some proposed measures:

- The international community should strengthen "Global Health Security", and allocate resources to establish an efficient surveillance system and fund a prompt organized response.
- Tests should be promptly available and their development standardized rapidly by the FDA and the CDC should provide diagnostic clinical guidance in order to learn of the magnitude of the ensuing pandemic and allow public health to respond proportionally. Ideally, home testing should include multiple respiratory viruses and there should be a centralized web-based reporting system to alert public health authorities and keep the "pulse" of the evolving epidemic.
- Government contracts with companies able to ramp up and manufacture such diagnostic tests should be in place and revisited periodically
- Nations should establish an ongoing partnership with vaccine manufacturing companies to accelerate research, development, clinical trials and regulatory review to be ready when "catastrophe strikes".
- Better ventilation and filters should be installed in commercial and public buildings to decrease microbiologic burden and potential infection. Pandemic studies documented that with improved ventilation, absenteeism declined.
- Proper high quality protective gear should be stored in higher quantities, to be able to face new emergencies.
- The CDC may need restructuring and additional funding, to allow the agency to rapidly provide leadership nationally and internationally and recruit additional talent where necessary.
- The local – county level public health capacity and skills need to improve, to support the community organizations.
- There should be stringent government oversight and possible proscription of biological research leading to laboratory synthesis of viruses and other communicable pathogens and international enforcement of the Biological Weapons Convention, treaty that bans biological and toxic weapons.
- The current administration's budget has requested funding for such "pandemic preparedness" but the current congress has not addressed the matter yet.
- The World Health Organization and its partners are building a network called the Global Health Emergency Corps, intended to incorporate the world's top health emergency leaders to ready societies for the next pandemic which undoubtedly eventually will arrive.

COVID-19 Q & A: Please, refer to prior Bits.

Should we get a 6th shot? (Since more than 6 months have elapsed since our last booster). Britain and Canada have made such recommendation. On April 4th, the FDA indicated that an updated booster will be authorized later this year. Considering that still 1500-1600 individuals still die weekly from Covid-19, it makes sense for some elderly patients and those who suffer from immune compromise, to go forward with this 6th updated shot.

COVID-19 TREATMENTS: Refer to prior Bits.

COVID-19 - PROVEN THERAPY: Refer to prior Bits

YOUR HEALTH: Menopause and Andropause.

I frequently quip to my patients as they leave that "the quest for immortality goes on". But nobody wants to be immortal if we are riddled by chronic aches, pains and our bodies decay such that the usual pleasurable activities are no longer enjoyable. To a large extent, sanitation, immunizations and preventive healthcare have extended our lives into our 7th and 8th decades. Reaching the 9th and 10th decade of life is to a large degree, a "genetic lottery". But also, the consequence of studious and relentless, life-long attention to details and preservation of your vascular and mental health.

The vitality and quality of the last few decades of life, depend on our daily healthy routines and of course, a bit of luck. Eating properly, maintaining a healthy weight, proper muscle and bone mass with good strength and flexibility; normal glucose, adequate lipid profile, healthy teeth and controlled blood pressure. That simple recipe, accounts for most of the health gains. The use of supplements and complementary measures, have a questionable and at best, marginal benefit, as we have discussed in the past.

Today, we will address those most "mundane" inescapable age-related changes induced by the exhaustion of ovarian follicles (oocytes) with the consequent decline in estrogen and progesterone in women and the slow decline in testosterone levels in aging men.

Menopause

Menopause is the natural cessation of menstrual cycles and the end of reproductive years for women and it is defined retrospectively, 12 months after the last menstrual period. The final menstrual period occurs on average between 51 and 52 years of age and there are many factors that determine the onset, such as maternal age at menopause, smoking, use of contraceptives, medications, surgeries, radiation, etc.

There is a period of "perimenopause" that typically begins 4 years before the last menstrual period characterized by irregular menses and problematic "thermo-regulation" (intermittent sensation of heat, sweating, flushing, anxiety or chills lasting for 1-5 minutes or some combination). Almost 80% of women suffer from some of these symptoms, but only 25% of them seek medical attention. You may think, what is remarkable about this if most humans with XX chromosomes suffer from them? Well, those

symptoms and consequences which usually last for up to 8 years, are treatable and not obligatory. Furthermore, over the past few years we have learned that the benefits of hormone replacement therapy outweigh risks for most women within the first post-menopause decade.

"Vasomotor" symptoms are associated with poor sleep quality, irritability, decreased concentration, reduced quality of life, bone loss, increased risk of heart disease and mental decline. The lack of estrogens also leads to trophic changes in the bladder, vulva and vagina that troubles more than ½ of post-menopausal women, leading to vaginal dryness, burning, irritation, potentially painful sex and urinary urgency with a rise in recurrent urinary tract infections. Some women can also develop features of depression and significant interpersonal difficulties and the associated insomnia may also increase cognitive dysfunction.

We should remember that this is a natural process and if symptoms minimal, the healthiest approach is to graciously accept it as another stage of humanity's evolution from cradle to sunset. But if problematic symptoms ensue, premature menopause, or naturally at high risk of complications, best to consider treatment.

The "hormone replacement therapy" (HRT) debate has been "raging" since Brooklyn gynecologist, Dr. Robert Wilson and his wife Thelma, published an article in 1963 arguing that not treating menopause decreased women's quality of life and their femininity. In 1966, they published "Feminine Forever" supporting treatment with estrogen supplements which would rescue women from "the living decay" of menopause, "preserving women's youth, sex appeal and marriages"!

The benefits seemed certain, with immediate relief of the vasomotor symptoms of flushing and perspiration, improved bone and skin integrity and prevented cardiovascular disease. By the year 2000, more than 20% of American women were taking hormone replacement therapy in the form of a estrogen with a synthetic form of progesterone.

In 2002, the controversial NIH sponsored, randomized, controlled trial "Women's Health Initiative" (WHI) was published, raising alarms about the possible increase in breast cancer incidence, heart attacks, clots and strokes. At the same time, it emerged that Dr. Wilson had received money from the pharmaceutical company making the very conjugated estrogen promoted by the book. Conclusion: HRT declined rapidly and to this day, many physicians have been fearful to discuss the matter with their patients, despite new publications and observations that provide adequate guidance and refrain from the "one-size fits all" approach.

The WHI has been studied and analyzed in detail and many of the conclusions have more recently been invalidated. The study excluded women with perimenopausal symptoms, for fear that those receiving

placebo would abandon the trial. Also, instead of recruiting healthy women in their late 40's and early 50's entering menopause, the median age was 63. More than 50% of the cohort had BMI's in the obese range, 1/3 were hypertensives and almost 50% were current or past smokers, suggesting that many patients already had atherosclerosis. For them, HRT was probably not a good idea. We now know that women with vasomotor symptoms are at higher risk of vascular complications such as heart attacks and stroke. Thus, the trial design almost certainly negatively biased the results.

Repeat analysis of the WHI study and studies completed more than a decade ago, have concluded that women in their 50's had a 31% lower mortality in the 5-7 years taking HRT and women with premature or surgical menopause had a much greater benefit, with prevention of osteoporosis and heart disease for almost 20 years. A very large study published in The Lancet analyzed the international epidemiological data from 1992 through 2018, identifying almost 110,000 women with breast cancer and their HRT exposure, concluding that there is a very small increase in the rates of breast cancer after 5 years of treatment which was lower than the risk of working as a flight attendant (greater cosmic radiation at higher altitude).

The analysis estimated that 5 years of HRT initiated at age 50 would increase the incidence of breast cancer from age 50-69 by 1 in 50 users of estrogen plus daily progestins, 1 in 70 users of estrogen plus intermittent progestins and 1 in every 200 users of estrogen preparations. Transdermal and vaginal routes are felt to be much safer and twice-weekly vaginal estrogen has not been associated with an increased risk of breast cancer.

Of course, we should keep in mind that any increase in risk must be balanced against the alternative of developing other problems, which reminds me of my mother's unfortunate experience and the ravages of premature menopause. Allow me to briefly share her story:
My mom, Edith, was born in the summer of 1942 in Esperanza, a small town in Argentina's Pampas. She became a teacher and in 1963, married my father who returned to his home town after obtaining his medical degree. After the birth of my younger sister in 1968, Edith suffered a ruptured uterus leading to massive hemorrhage and hypovolemic shock. She required almost 20 emergency blood transfusions from nurses, doctors and passers-by (uncrossed and untested donors) to keep her alive. During the course of the necessary and urgent operation to remove the bleeding uterus, one of her ovaries was accidentally removed (and one of her ureters was severed). These obstetric complications would lead to premature ovarian failure (as the remaining ovary later developed a cyst prompting resection). Furthermore, the re-connection of the ureter to the bladder led to bladder-ureteral reflux and, over time, recurrent

kidney infections and chronic pyelonephritis associated progressive renal failure, over the course of 4 decades. Her premature ovarian failure resulted in osteoporosis, skeletal complications and likely aggravated her vaginal-urethral health and facilitated recurrent bladder and kidney infections which ultimately, despite her good genes and her doing “the home-work”, caused her premature demise.

I share her story, because it reminds us of the unintended consequences of some medical actions but also, of inaction. Her health and quality of life, could have been better preserved. I certainly hope that our office dialogues and the humble efforts behind the “Medical Bits”, improve the quality of our communication to help fulfill your medical and healthcare needs.

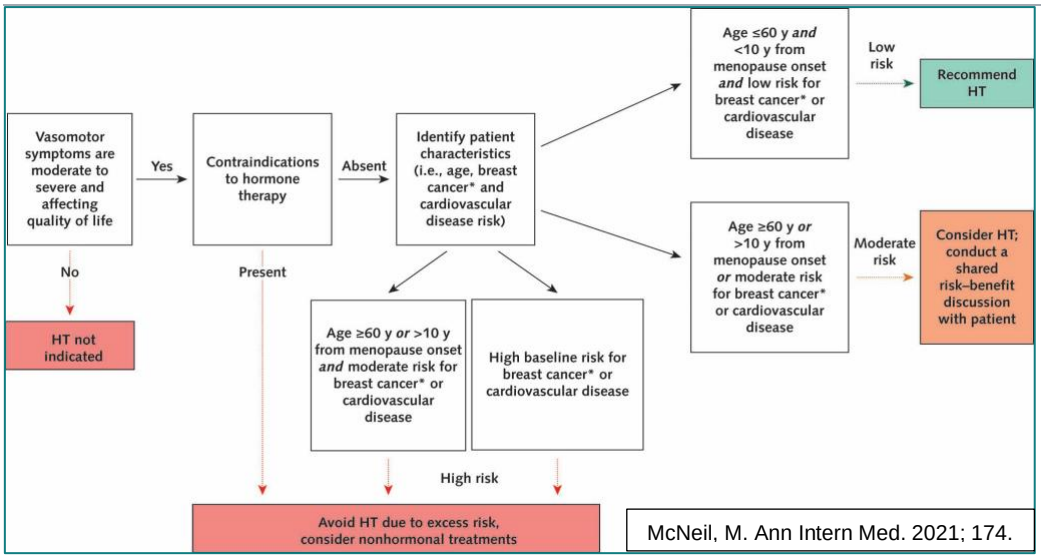
HRT appears to reduce the mortality of women aged 50-59 mostly due to fewer heart attacks and vascular events. We should remember that more than 90% of women with breast cancer survive in OECD nations. Progestins now available are thought to have higher cardiovascular safety and transdermal estrogen formulations which avoid hepatic metabolism are anticipated to be safer and effective.

Hormone replacement therapy (HRT) vs no HRT in recently postmenopausal women†

Outcomes	Event rates		After 10 y of therapy	
	HRT	No HRT	RRR (95% CI)	NNT (CI)
Death, MI, or HF‡	3.2%	6.5%	50% (11 to 72)	31 (22 to 144)
			At 16 y	
Death, MI, or HF§	6.6%	11%	37% (4 to 59)	26 (17 to 251)

Many women forgo the benefits that 5-10 years of perimenopausal hormone replacement treatment can provide. In Eastern European nations, less than 3% of women receive HRT and less than 30% of potential beneficiaries have accepted treatment in Western Europe and the US.

Before you refuse to consider HRT, consider the following chart:



McNeil, M. Ann Intern Med. 2021; 174.

KEY CLINICAL POINTS

Pinkerton JV. N Engl J Med 2020;382:446-455

Hormone Therapy for Postmenopausal Women

- Women < 60 or within 10 yrs after onset of menopause with hot flashes or night sweats are most likely to benefit.
- Women with early menopause without contraindications.
- Use transdermal therapy in patients with DM, Obesity, Low libido, Migraines, Gallbladder or liver disease.
- If uterus present, use estrogen / progestins or estrogen bazedoxifene.
- If uterus absent, use estrogen alone.
- Compounded bioidentical hormones not approved by the FDA.
- Not recommended for prevention of heart disease or dementia.
- Nonhormone therapies may reduce hot flashes: low-dose SSRI and NSRI's, gabapentinoids, weight loss, hypnosis, and CBT.
- Attempt to taper HRT after 5 years.
- If only genitourinary symptoms, local vaginal therapy may suffice.

If the risk / benefit ratio is acceptable, this table offers different options.

Transdermal estrogen avoids "first-pass" hepatic metabolism, limiting the enhanced production of clotting factors, making the skin a safer route, with decreased clotting events such as stroke and cardiovascular thrombosis.

Table 4. **Selected Hormonal Preparations for Treatment of Vasomotor Symptoms**

Preparation	Generic Name	Daily Dosage
Combination hormone therapy (for women with a uterus)		
Oral continuous	CEs and MPA	0.625 mg CE plus 2.5 or 5.0 mg MPA; 0.45 mg CE plus 2.5 mg MPA; or 0.3 or 0.45 mg CE plus 1.5 mg MPA
Oral continuous	Estradiol and norgestimate	1 mg estradiol (days 1–3) 1 mg estradiol and 0.09 mg norgestimate (days 4–6)
Oral sequential	CEs and MPA	0.625 mg CE plus 5.0 mg MPA
Transdermal continuous	17β-estradiol–norethindrone acetate	1.0 mg estradiol plus 0.5 mg norethindrone 0.05 mg estradiol plus 0.14 or 0.25 mg norethindrone (patch applied twice weekly)
Transdermal continuous	17β-estradiol–levonorgestrel	0.045 mg estradiol plus 0.015 mg levonorgestrel (patch applied weekly)
Unopposed estrogens (for women without a uterus)		
Oral	CEs	0.3 mg, 0.45 mg, 0.625 mg, 0.9 mg, 1.25 mg
Oral	17β-estradiol	0.5 mg, 1.0 mg, 2.0 mg
Transdermal	17β-estradiol	0.025 mg, 0.05 mg, 0.075 mg, 0.1 mg (patch applied twice weekly)
Transdermal	Estradiol patch	0.025 mg, 0.0375 mg, 0.05 mg, 0.075 mg, 0.1 mg (patch applied weekly)

CE = conjugated estrogen; MPA = medroxyprogesterone.

McNeil, M. Ann Intern Med. 2021; 174.

Other non-pharmacologic methods such as: Phytoestrogens, black cohosh, CBT, mindfullness, acupuncture, yoga, and exercise provide equivocal and no clear benefits over placebo, but risks are small. A new non-hormonal neurokinin 3 receptor antagonist Fezolinetant,

Table 5. **Selected Nonhormonal Treatments for Vasomotor Symptoms**

Treatment	Daily Dosage	Contraindications	Adverse Effect Profile
SNRIs/SSRIs			
SNRIs	Venlafaxine, 37.5–75 mg Desvenlafaxine, 100-150 mg	Prior serotonin or neuroleptic syndrome, use of MAO inhibitors, seizure disorder Caution in uncontrolled hypertension	Dry mouth, decreased appetite, nausea, constipation
SSRIs	Paroxetine, 7.5-25 mg Escitalopram, 10-20 mg Citalopram, 10-20 mg	Prior serotonin or neuroleptic syndrome, use of MAO inhibitors, uncontrolled hyponatremia Caution with SSRIs (especially paroxetine and fluoxetine) in women prescribed tamoxifen	Headache, dizziness, nausea, diarrhea, insomnia, drowsiness
Gabapentinoids			
Gabapentin	900-2400 mg in divided doses (titrate up from 100-300 mg every night at bedtime)	Caution in renal impairment	Dizziness, drowsiness, unsteadiness May be useful for nocturnal hot flashes that disrupt sleep
Pregabalin	150-300 mg	Less well studied	-
Antihypertensives			
Clonidine	0.1-mg transdermal patch or 0.1-mg oral tablet	-	Insomnia, dry mouth, headache, hypotension

MAO = monoamine oxidase; SNRI = serotonin-norepinephrine reuptake inhibitor; SSRI = selective serotonin reuptake inhibitor.

appears to be safe and effective and now under consideration for approval by the FDA.

Women who report genito-urinary symptoms only, topical treatments may suffice and may require long-term use, as frequent urinary tract infections and local symptoms may recur otherwise.

Appendix Table. **Selected Treatments for Vaginal Dryness**

Treatment	*Dosage*
Nonhormonal over-the-counter treatments	
Vaginal moisturizer	Apply 2-3 times per week
Water-based vaginal lubricant	Apply as needed before intercourse
Hormonal prescription drugs (local vaginal estrogens)	
Estradiol vaginal ring	0.05 and 0.1 mg/d, 1 ring every 3 mo 2 mg per ring (0.0075 mg/d), 1 ring every 3 mo
Conjugated estrogen vaginal cream	0.625 mg estrogen per gram of cream, 1 g (one half of applicator) once or twice weekly
Estradiol vaginal cream	0.1 mg estradiol per gram of cream
Estradiol vaginal tablet	10-mcg tablet placed in vagina twice weekly
Selective estrogen receptor modulator	
Ospemifene oral tablet	60 mg daily
Other	
Vaginal dehydroepiandrosterone	6.5 mg cream placed in vagina once daily

Andropause

As men age, the serum concentration of testosterone gradually declines. Some studies have shown that raising those levels may be beneficial, but no study has enrolled and observed men for long enough to properly evaluate risks and benefits.

The European Male Aging Study (EMAS) demonstrated that the total serum testosterone concentration falls by 0.4% annually with a more marked decline after age 80 years. The consequences are not certain, but it is associated with decreased libido, muscle mass and strength, depressed mood, decreased bone mineral density and mild anemia.

Men who have these symptoms, should have a serum testosterone test early in the morning and fasting. If low, the test should be repeated at least once or twice in a laboratory that participates in the HoSt program (testosterone hormone standardization).

If the results are consistently low, LH and FSH should be measured to learn if the hypogonadism is primary (testicular failure) or secondary related to pituitary abnormalities, and if the latter, additional pituitary hormones should be tested and possibly pituitary MRI completed.

Treatment is controversial and should be offered only to those who have symptoms and after discussion of risks and benefits. Avoid if Prostate Specific antigen is > 4 ng/ml or > 3 ng/ml in men at high risk of prostate cancer or if Hematocrit is > 48%. Testosterone and PSA levels should be monitored in 3-6 months after initiation of treatment.

The multicenter TTrials (Testosterone Trials) were a coordinated set of seven placebo-controlled trials to test the 1-year efficacy of supplementation in men with low testosterone levels.
More than 51,000 men were screened and 790 enrolled (1.5% - met the low testosterone concentration levels with a median of 232 ng/dl):

Sexual function: Testosterone therapy was associated with improvement in sexual function, activity, desire and to a lesser degree, erectile function.
Physical Function: No difference.
Vitality: No difference, but those on T reported better mood and lower depression scores.
Cognitive function: No difference.
Anemia: Men on T had an increase in hemoglobin of up to 1g/dl and in some it led to polycythemia with hemoglobin above 17 g/dl.
Bone Density: After one year, men had an increase in bone mineral density of 7.5% compared to 0.8% in the placebo group.
Coronary artery plaque: men had a greater increase in total plaque volume.

In summary, testosterone in those with proven low levels, enhances libido, modestly improves sexual function, mood, unexplained anemia and bone density. It does not increase vitality or cognitive function and it may increase coronary artery disease and prostate cancer risk. Once again, there is no “free-lunch”!

Medical News:

The injectable medications Semaglutide (GLP-1 Agonist – Glucagon-like-peptide stimulant) and Tirzepatide (GLP-1 and GIP agonist) and the dozen of similar drugs in the pipeline, may change the “landscape” of obesity. Almost a billion people worldwide suffer from obesity, including more than 40% of Americans and 11% of them suffer from type II Diabetes Mellitus, leading to vascular and consequently multisystemic damage. These drugs mimic a naturally occurring hormone called glucagon-like-peptide 1, which is released when we eat. Normally, the hormone travels to the brain and induces satiety, but also slows down the stomach and the bowel. This, in turn, controls cravings and makes impossible to eat excessively, without becoming ill with nausea and possibly vomiting.

We have discussed these drugs in the past, but this simple chart will give you pause: If all Medicare plan D members who have a BMI above 30 request these medications, the total Medicare Plan D budget would be wiped out. In fact, these medications by themselves, would consume 185% of the Medicare Plan D dollars (which are paid for with our federal deficit).

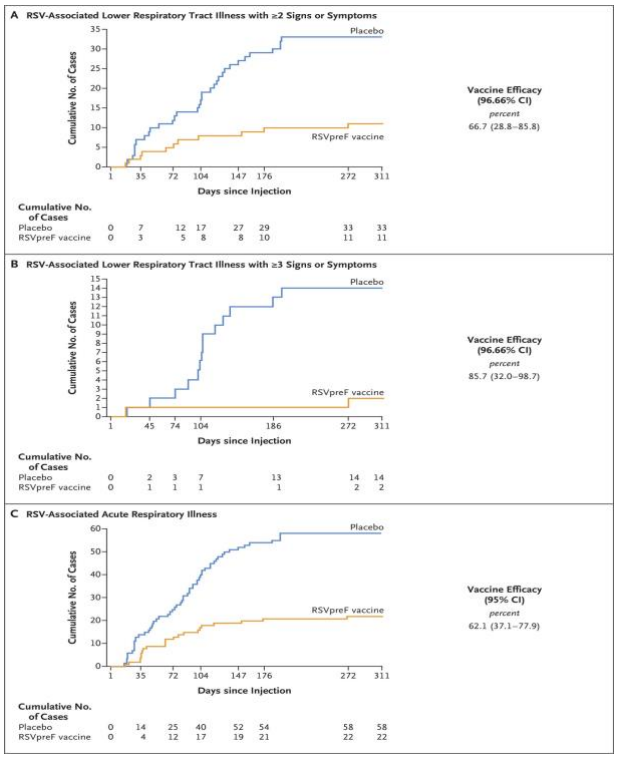
Potential Range of Medicare Costs for the Use of Antiobesity Medications.*

Obesity Prevalence		Medication Users		Phentermine and Topiramate Cost		Semaglutide Cost	
Identification Method	People with Obesity (%)	People with Obesity Treated (%)	No. of Beneficiaries	Estimated Annual Total Cost ($)	Percentage of Part D Net Spending	Estimated Annual Total Cost ($)	Percentage of Part D Net Spending
Diagnosis in Medicare claims	21	1	99,568	66,710,261	0.05	1,355,910,952	0.94
		5	497,838	333,551,306	0.23	6,779,554,759	4.68
		10	995,676	667,102,612	0.46	13,559,109,517	9.35
		100	9,956,755	6,671,026,125	4.60	135,591,095,173	93.51
CDC estimate of adults 60 years of age or older	41.5	1	196,764	131,832,183	0.09	2,679,538,309	1.85
		5	983,822	659,160,915	0.45	13,397,691,547	9.24
		10	1,967,645	1,318,321,829	0.91	26,795,383,094	18.48
		100	19,676,445	13,183,218,294	9.09	267,953,830,938	184.80

* Data are based on 2020 Medicare Part D enrollment of 47,413,121 persons. Data on obesity diagnoses are from the Centers for Medicare and Medicaid Services. The rate of obesity diagnosis is based on fee-for-service beneficiary claims in 2019; we conservatively assume an equal rate among beneficiaries enrolled in Medicare Advantage. Estimated annual net prices are $670 for generic phentermine and topiramate and $13,618 for brand-name semaglutide at a dose of 2.4 mg.[2] Net prices are after rebates and discounts; actual net costs to Medicare could differ. The estimated total costs don't account for use by beneficiaries who are overweight (body-mass index [the weight in kilograms divided by the square of the height in meters] of ≥25 to <30) and have at least one coexisting condition or those with current use of semaglutide for diabetes. The total costs also do not include offsets in pharmaceutical or medical spending. Part D net spending for 2019 was $145 billion.[3] CDC denotes Centers for Disease Control and Prevention.

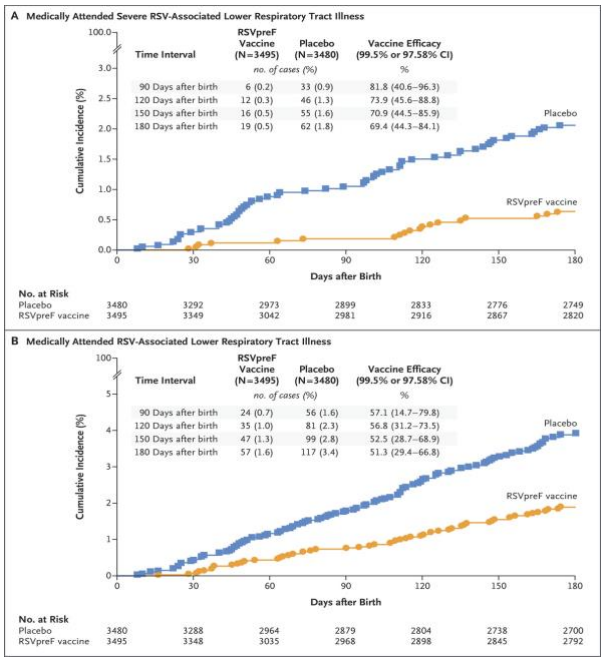
RSV VACCINE

Respiratory Syncytial Virus bivalent vaccine, containing RSV F from subtypes A and B RSV viruses is safe and effective in adults: Vaccine efficacy with respect to a first episode of RSV-associated lower respiratory tract illness for the evaluable efficacy population (16,306 participants in the RSVpreF vaccine group and 16,308 participants in the placebo group). Other recent studies have also demonstrated adequate safety and efficacy.



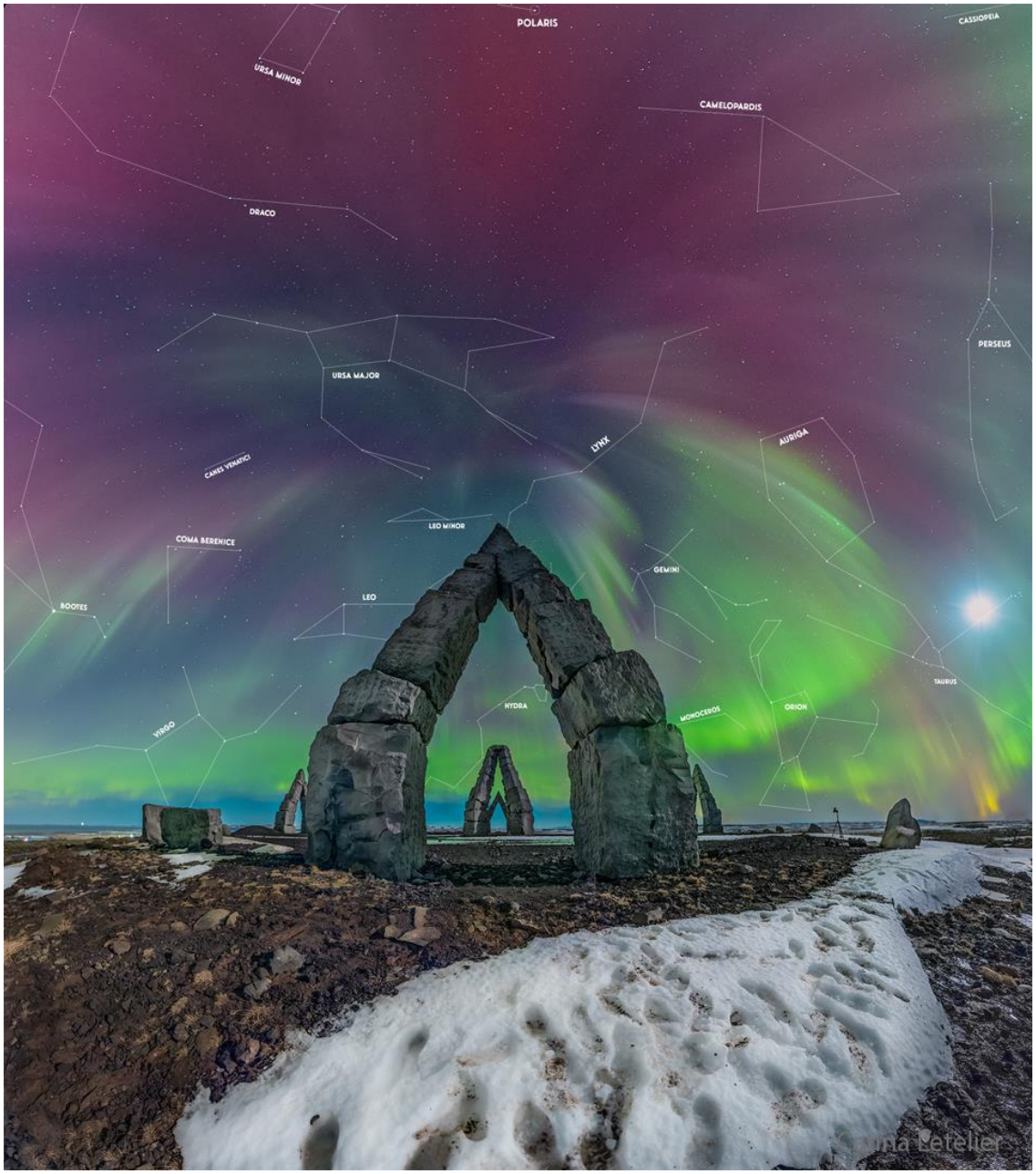
Another phase 3 clinical trial evaluated efficacy and safety in almost 8000 pregnant women at 24 thourgh 36 weeks' gestation, randomized to a single IM injection of 120 ucg of bivalent RSV prefusion F protein-based vaccine or placebo demonstrated safety and efficacy.

Approval by the FDA is anticipated by August and I trust my eligible patients will dutifully roll up their sleeves by the fall of 2023!



Health "Supplements"

And if you are one of the 58% of Americans who consumes vitamins, minerals, botanicals, live microorganisms, dietary supplements (spending about 55 Billion in 2020) to prevent or treat various real or (mostly) imaginary ailments and "conditions" (infections of all sorts, memory loss, lack of energy, heart disease, aging, degenerative bone disease, etc.) you may want to read the Dietary Supplement Listing Act of 2022 and will realize why it's always best to "keep it simple" and if not proven, do not use them.



Aurora Over Arctic Henge
Image Credit & Copyright: Cari Letelier

Explanation: Reports of powerful solar flares started a seven-hour quest north to capture modern monuments against an aurora-filled sky. The peaks of iconic Arctic Henge in Raufarhöfn in northern Iceland were already aligned with the stars: some are lined up toward the exact north from one side and toward exact south from the other. The featured image, taken after sunset late last month, looks directly south, but since the composite image covers so much of the sky, the north star Polaris is actually visible at the very top of the frame. Also visible are familiar constellations including the Great Bear (Ursa Major) on the left, and the Hunter (Orion) on the lower right. The quest was successful. The sky lit up dramatically with bright and memorable auroras that shimmered with amazing colors including red, pink, yellow, and green -- sometimes several at once.

If you have 10 minutes, enjoy this time-lapse of the Entire Universe.
If you have another 10 minutes, read Dr. Fauci's reflections.
If you have 6 more minutes, the massive expanse of our Universe and the magnificent insignificance of humans will delight you.

You will not be able to watch these two videos without smiling. If you have 7 minutes daily, you can start to improve your fitness right now with the Scientific 7- Minute Workout. Get the app on your phone!
11 more minutes will get you in shape!
For core strength, try this 9-minute routine!

AND START EXPLORING AND PRACTICING MINDFULNESS! It will also help you lower your blood pressure and levels of stress. It will raise pain threshold and your overall sense of well-being.
THERE ARE MULTIPLE RESOURCES ON THE WEB.

Let's all remember that the only certainty in life, is death and the only fountains of youth proven by science and experience are love, exercise, laughter, humor and a positive attitude!

OFFICE UPDATES

- Olivia Dragovits (oliviad@chevychasepulmonary.com) is my assistant, always ready to help with her wonderful demeanor and multi-tasking abilities.
- Samantha Morales will continue to assist you until June, when she will follow her dream into Medical School.
- Nicole Loy and Jonathan Sir are excellent and will continue to assist with your office needs as they continue to work towards Medical School.
- We are lucky to have Andrew Fookes and Nicholes Rhinesmith who are assisting as Respiratory Technicians and all office needs as they also work towards their medical / physician assistance schools acceptance.
- Dr. Shahzad Ahmad has joined us from Stanford University and has proven to be a great addition to our practice.
- I will be away from June 1st through June 13th, hoping to catch a few bears, moose and other surprises in Alaska with my family. My partners will cover emergencies in my absence as usual, but never too far from email and phone.

Wishing you a Happy Spring!

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